

Remarks

I. 35 USC § 103

A. Claims 1, 4, 21, 23, 28-31 and 33

Claims 1, 4, 21, 23, 28-31 and 33 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent No. 6,427,169 to Elzur ("Elzur") in view of U.S. Patent No. 4,625,081 to Lotito et al. ("Lotito").

1. Claim 1

Regarding claim 1, the Office Action states:

As per claim 1, Elzur discloses an interface device for a computer, the interface device comprising:

- a hardware configured to process a transport layer header of a packet received via a first network port (column 1, lines 18-21, column 2, lines 65-67, column 3, lines 46-51, 65-67, column 4, lines 6-9; A network controller, at the physical layer, establishes physical communication with the network to send and receive packets to and from the network);
- A memory storing a TCP connection established by the computer and handled by said device (column 4, lines 14-17, 23-25, 34-36, 61-67; The network controller includes hardware such as a receive path. The receive path includes a memory that stores flow tuples that identify characteristics of a particular flow associated with a TCP connection);
- A mechanism for associating said packet with said TCP connection (column 4, lines 14-17, 23-25, 34-36, 61-67).

Elzur does not explicitly disclose:

- to send data from said packet via a second physical network port to a storage unit, thereby avoiding the computer.

However in an analogous art, Lot discloses a packet switcher testing a physical address input port for availability to receive a packet of data. If available, the packet is transferred. The header of the packet determines process identification. Some data is transferred between user processes and buffers in the device, controller, or handler. However, a user process can initiate a transfer of data between source and destination without passing the data through the user's process. For example, a transfer can go from a display record on disk to an operator station with no intervention from user and with direct routing of the data through the system. No processing occurs (column 17, lines 24-27, column 45, lines 20-34, column 67, lines 49-55, column 68, lines 5-17, column 114, lines 37-47).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Lot's send data via a second physical network port to a storage unit, thereby

avoiding the computer in Elzur's device enabling data to be transferred without processing.

Applicants respectfully disagree with this rejection. Applicants note that, like the prior Office Actions, the current Office Action relies on Elzur as the primary reference, although the secondary reference has been changed to Lotito. Curiously, previous Office Actions of December 12, 2011 and May 9, 2011 admitted:

Elzur does not explicitly disclose:

- A memory storing a TCP connection established by the computer and handled by said device.

In an effort to expedite the extended prosecution of this application, however, applicants have amended claim 1 in several ways, the support for which is listed immediately below.

Support for the recitation of an “interface device for a computer having a file system that controls a file cache” can be found in the original application at page 8, lines 24 – page 9, line 21.

Support for the recitation of “interface hardware configured ...to separate said transport layer header from data of said packet, wherein said data corresponds to a layer higher than said transport layer” can be found in the original application at page 11, lines 18-21.

Support for the recitation of “an interface memory ... adapted to store said data in said file cache,” can be found in the original application at page 11, lines 1-5 and 18-21, and at FIG. 1, elements 46 and 80.

Support for the recitation of “an interface mechanism for associating ... said TCP connection with said file cache...” can be found in the original application at page 11, lines 7-8.

Neither Elzur nor Lotito teaches or suggests “an interface memory ... adapted to store said data in said file cache,” as recited in claim 1. In fact, there appears to be no mention of a “file system” or a “file cache” in either Elzur or Lotito.

Similarly, neither Elzur nor Lotito teaches or suggests “an interface mechanism for associating ... said TCP connection with said file cache...” as recited in claim 1.

Applicants note that the Office Action on pages 10 and 11 rejects claims 6 and 7, which recited that the “network interface” further comprised a “file cache.” In that regard, the Office Action states, “the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).” “Muller” refers to U.S. Patent 6,453,360 to Muller et al.

Applicants respectfully disagree, however, that Muller at column 56, lines 20-30, column 58, lines 26-30 discloses a file cache. Like Elzur and Lotito, Muller does not teach or suggest “an interface memory ... adapted to store said data in said file cache,” as recited in claim 1. As described in the present application at page 8, lines 24 – page 9, line 9:

The file system 23 is a high level software entity that contains general knowledge of the organization of information on storage units 66 and 70 and file caches 24 and 80, and provides algorithms that implement the properties and performance of the storage architecture. The file system 23 logically organizes information stored on the storage units 66 and 70, and respective file caches 24 and 80, as a hierarchical structure of files, although such a logical file may be physically located in disparate blocks on different disks of a storage unit 66 or 70. The file system 23 also manages the storage and retrieval of file data on storage units 66 and 70 and file caches 24 and 80. I/O driver 67 software operating on the host 20 under the file system interacts with controllers 64 and 72 for respective storage units 66 and 70 to manipulate blocks of data, i.e., read the blocks from or write the blocks to those storage units. Host file cache 24 and INIC file cache 80 provide storage space for data that is being read from or written to the storage units 66 and 70, with the data mapped by the file system 23 between the physical block format of the storage units 66 and 70 and the logical file format used for applications. Linear streams of bytes associated with a file and stored in host file cache 24 and INIC file cache 80 are termed file streams. Host file cache 24 and INIC file cache 80 each contain an index that lists the file streams held in that respective cache.

In contrast, the paragraph of Muller that includes the Office Action citation of column 56, lines 20-30 states:

With reference back to FIGS. 1A-B, a packet that is to be transferred into host memory by DMA engine 120 is stored in packet queue 116 after being received from network 102. Header parser 106 parses a header portion of the packet and generates a flow key, and flow database manager 108 assigns an operation code to the packet. In addition, the communication flow that includes the packet is registered in flow

database 110. The packet's flow may be identified by its flow key or flow number (e.g., the index of the flow in flow database 110). Finally, information concerning the packet (e.g., operation code, a packet size indicator, flow number) is stored in control queue 118 and, possibly, other portions or modules of NIC 100, and the packet is transferred to the host computer by DMA engine 120. During the transfer process, the DMA engine may draw upon information stored in the control queue to copy the packet into an appropriate buffer, as described below. Dynamic packet batching module 122 may also use information stored in the control queue, as discussed in detail in a following section.

This disclosure of “a packet that is to be transferred into host memory by DMA engine 120 is stored in packet queue 116” does not teach or suggest a file cache disposed on an interface device. Similarly, the paragraph of Muller that includes the Office Action citation of column 58, lines 26-30 states:

In the illustrated embodiment of the invention, data portions of related, re-assembleable, packets are placed into a first category of buffers--which may be termed re-assembly buffers. A second category of buffers, which may be called header buffers, stores the headers of those packets whose data portions are being re-assembled and may also store small packets (e.g., those less than or equal to 256 bytes in size). A third category of buffers, MTU buffers, stores non-re-assembleable packets that are larger than 256 bytes, but no larger than MTU size (e.g., 1522 bytes). Finally, a fourth category of buffers, jumbo buffers, stores jumbo packets (e.g., large packets that are greater than 1522 bytes in size) that are not being re-assembled. Illustratively, a jumbo packet may be stored intact (e.g., its headers and data portions kept together in one buffer) or its headers may be stored in a header buffer while its data portion is stored in an appropriate (e.g., jumbo) non-re-assembly buffer.

This disclosure that “data portions of related, re-assembleable, packets are placed into a first category of buffers--which may be termed re-assembly buffers,” teaches reassembly at the TCP level, not at the level of a file cache under control of a file system. Moreover, Muller teaches that such buffers are located in host computer memory, not in an interface device. See, e.g., column 56, lines 34-38.

Neither of these paragraphs nor the rest of Muller teaches or suggests an “interface device for a computer having a file system that controls a file cache,” “an interface memory ... adapted to store said data in said file cache,” and “an interface mechanism for associating ... said TCP connection with said file cache...” as recited in claim 1.

For all the above reasons, applicants respectfully assert that claim 1 is non-obvious over the cited art.

2. Claim 4

Regarding claim 4, the Office Action states:

As per claim 4, Elzur discloses the interface device of claim 1, further comprising a Fibre Channel controller connectable to the storage unit (column 3, lines 46-60).

Applicants respectfully disagree. A “Fibre Channel controller” is not disclosed in column 3, lines 46-60 of Elzur. A “Fibre Channel controller” is also not disclosed elsewhere in that patent, and is not disclosed in Lotito.

3. Claim 21

Regarding claim 21, the Office Action states:

As per claim 21, Elzur discloses an interface device for a computer, the interface device comprising:

- A receive mechanism that processes a Transmission Control Protocol (TCP) header of a network packet (column 1, lines 18-21, column 2, lines 65-67, column 3, lines 46-51, 65-67, column 4, lines 6-9; A network controller, at the physical layer, establishes physical communication with the network to send and receive packets to and from the network);
- A memory storing a TCP connection established by the computer and handled by said device (column 4, lines 14-17, 23-25, 34-36, 61-67; The network controller includes hardware such as a receive path. The receive path includes a memory that stores flow tuples that identify characteristics of a particular flow associated with a TCP connection);
- A processing mechanism that associates said packet with said TCP connection (column 4, lines 14-17, 23-25, 34-36, 61-67).

Elzur does not explicitly disclose:

- to send data from said packet via a second physical network port to a storage unit, thereby avoiding the computer.

However in an analogous art, Lot discloses a packet switcher testing a physical address input port for availability to receive a packet of data. If available, the packet is transferred. The header of the packet determines process identification. Some data is transferred between user processes and buffers in the device, controller, or handler. However, a user process can initiate a transfer of data between source and destination without passing the data through the user's process. For example, a

transfer can go from a display record on disk to an operator station with no intervention from user and with direct routing of the data through the system. No processing occurs (column 17, lines 24-27, column 45, lines 20-34, column 67, lines 49-55, column 68, lines 5-17, column 114, lines 37-47).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Lot's send data via a second physical network port to a storage unit, thereby avoiding the computer in Elzur's device enabling data to be transferred without processing.

Applicants respectfully disagree with this rejection for reasons similar to those mentioned above with regard to claim 1. In an effort to expedite the prosecution of this application, however, applicants have amended claim 21 in several ways.

Support for the recitation of an "interface device for a computer having a file system that controls a file cache" can be found in the original application at page 8, lines 24 – page 9, line 21.

Support for the recitation of "an interface receive mechanism that processes a Transmission Control Protocol (TCP) header of a network packet, and separates said header from data of said packet, wherein said data corresponds to a layer higher than said transport layer," can be found in the original application at page 11, lines 18-21.

Support for the recitation of "an interface memory storing an established TCP connection that can migrate to and from the computer, said memory storing said data in said file cache," can be found in the original application at page 11, lines 1-5 and 18-21, and at FIG. 1, elements 46 and 80.

Support for the recitation of "an interface processing mechanism that associates ... said TCP connection with said file cache ..." can be found in the original application at page 11, lines 7-8.

Neither Elzur nor Lotito teaches or suggests "an interface memory ... said memory storing said data in said file cache" as recited in claim 1. In fact, there appears to be no mention of a "file system" or a "file cache" in either Elzur or Lotito.

Similarly, neither Elzur nor Lotito teaches or suggests "an interface processing mechanism that associates ... said TCP connection with said file cache..." as recited in claim 1.

Applicants note that the Office Action on pages 11 and 12 rejects claims 26 and 27, which recited that the “network interface” further comprised a “file cache.” In that regard, the Office Action stated, “the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).”

As noted above, however, Muller at column 56, lines 20-30, column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device. Like Elzur and Lotito, Muller does not teach or suggest “an interface memory ... said memory storing said data in said file cache ...” as recited in claim 21.

Moreover, Muller does not teach or suggest “an interface processing mechanism that associates ... said TCP connection with said file cache...” as recited in claim 21.

For at least these reasons, applicants respectfully assert that claim 21 is non-obvious over the cited art.

4. Claim 28

Regarding claim 28, the Office Action states:

As per claim 28, Elzur discloses a method for operating an interface device for a computer, the interface device connectable to a network and a storage unit, the method comprising:

- Receiving, by the interface device from the network, a packet containing data and a Transmission Control Protocol (TCP) header (column 1, lines 18-21, column 2, lines 65-67, column 3, lines 46-51, 65-67, column 4, lines 6-9; A network controller, at the physical layer, establishes physical communication with the network to send and receive packets to and from the network);
- A memory storing a TCP connection established by the computer and handled by said device (column 4, lines 14-17, 23-25, 34-36, 61-67; The network controller includes hardware such as a receive path. The receive path includes a memory that stores flow tuples that identify characteristics of a particular flow associated with a TCP connection);
- Processing, by the interface device, the TCP header (column 2, lines 64-67, column 4, lines 14-17, 23-25, 34-36, 61-67);
- Associating, by the interface device, the packet with the TCP connection (column 4, lines 14-17, 23-25, 34-36, 61-67).

Elzur does not explicitly disclose:

- to send data from said packet via a second physical network port to a storage unit, thereby avoiding the computer.

However in an analogous art, Lot discloses a packet switcher testing a physical address input port for availability to receive a packet of data. If available, the packet is transferred. The header of the packet determines process identification. Some data is transferred between user processes and buffers in the device, controller, or handler.

However, a user process can initiate a transfer of data between source and destination without passing the data through the user's process. For example, a transfer can go from a display record on disk to an operator station with no intervention from user and with direct routing of the data through the system. No processing occurs (column 17, lines 24-27, column 45, lines 20-34, column 67, lines 49-55, column 68, lines 5-17, column 114, lines 37-47).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Lot's send data via a second physical network port to a storage unit, thereby avoiding the computer in Elzur's device enabling data to be transferred without processing.

Applicants respectfully disagree with this rejection for reasons similar to those mentioned above with regard to claim 1. In an effort to expedite the prosecution of this application, however, applicants have amended claim 28 in several ways.

Support for the recitation of an "interface device for a computer having a file system that controls a file cache" can be found in the original application at page 8, lines 24 – page 9, line 21.

Support for the recitation of "storing the data from the packet in the file cache, wherein the file cache is disposed on the interface device," can be found in the original application at page 11, lines 18-21.

Elzur, Lotito and Muller do not teach or suggest these recitations. For at least these reasons, applicants respectfully assert that claim 28 is non-obvious over the cited art.

5. Claim 29

Regarding claim 29, the Office Action states:

As per claim 29, Elzur discloses the method of claim 28, further comprising creating, by the computer, the information regarding the TCP connection (column 4, lines 35-50).

Applicants respectfully assert that column 4, lines 35-50 of Elzur does not disclose creating anything by the computer, but rather discloses items regarding the “network controller 52.”

6. Claim 30

Regarding claim 30, the Office Action states:

As per claim 30, Elzur discloses the method of claim 28, wherein the packet is received via the port and the data is sent to the storage unit via the port (column 4, lines 43-45, column 6, lines 49-50, column 11, lines 28-30).

Applicants respectfully assert that none of these citations of Elzur disclose the recitation of claim 30, wherein the “port” is a “physical network port” as recited in claim 28, from which claim 30 depends.

7. Claim 31

Regarding claim 31, the Office Action states:

As per claim 31, Elzur discloses the method of claim 28, wherein the interface device includes first and second network ports, and the packet is received via the first port and the data is sent to the storage unit via the second port (column 4, lines 43-45, column 6, lines 49-50, column 11, lines 28-30).

Applicants respectfully assert that none of these citations of Elzur disclose the recitation of claim 31, wherein “the interface device includes first and second physical network ports.”

B. Claims 2, 5, 22 and 25

Claims 2, 5, 22 and 25 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Elzur in view of Lotito in view of U.S. Patent No. 6,065,096 to Day et al. (“Day”).

1. Claims 2 and 22

Regarding claims 2 and 22, the Office Action states:

As per claims 2 and 22, Elzur, in view of Lot, discloses the interface device of claims 1 and 21.

Elzur, in view of Lot, does not explicitly disclose the interface further comprising a SCSI controller connectable to the storage unit.

However, Day discloses SCSI interface channels attached to disk drives (column 2, lines 40-54, column 5, lines 1-25).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate in Day's interface comprising a SCSI controller in Elzur's device in order to provide for a simple, lower cost RAID controller architecture to enable lower cost and complexity associated with high performance and high reliability storage subsystems.

Initially, applicants respectfully assert that, as discussed above, Elzur in view of Lotito does not disclose the interface device of claims 1 and 21. Day does not mitigate the differences between Elzur in view of Lotito and those claims. For at least these reasons, applicants respectfully assert that claims 2 and 22 are nonobvious over the cited references.

2. Claims 5 and 25

Regarding claims 5 and 25, the Office Action states:

As per claims 5 and 25, Elzur, in view of Lot, discloses the interface device of claims 1 and 21.

Elzur, in view of Lot, does not explicitly disclose the interface further comprising a RAID controller connectable to the storage unit.

However, Day discloses a RAID controller that integrates onto a single integrated circuit of a general-purpose processor (column 2, lines 11-25, 55-67).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Day's interface comprising a RAID controller in Elzur's device allowing the disk interface connections and protocols to be more flexibly selected but at the cost of less integration within the circuit.

Initially, applicants respectfully assert that, as discussed above, Elzur in view of Lotito does not disclose the interface device of claims 1 and 21. Day does not mitigate the differences between Elzur in view of Lotito and those claims. For at least these reasons, applicants respectfully assert that claims 5 and 25 are nonobvious over the cited references.

C. Claim 3

Claim 3 stands rejected under 35 U.S.C. §103(a) as allegedly being obvious over Elzur in view of Lotito in view of U.S. Patent No. 6,172,981 to Cox et al. ("Cox").

Regarding claim 3, the Office Action states:

As per claim 3, Elzur, in view of Lot, does not explicitly disclose the interface device of claim 1, wherein said first network port is connected to a first network and said second network port is connected to a second network.

However, in an analogous art, Cox teaches a switch that provides connection between different networks. The switch transmits data bits received from the source port directly to the destination port. It reads the network layer protocol header in a data frame, and if destined for a station on a different LAN segment, it transmits to the destination end station (Abstract, column 1, lines 63-67, column 2, lines 1-5, 15-20, column 4, lines 3-8, column 5, lines 3-12).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Cox's ports on first and second networks in Elzur's device avoiding and eliminating delays by forwarding of data without storing the entire frame.

Applicants respectfully assert that, as discussed above, Elzur in view of Lotito does not disclose the interface device of claim 1. Cox does not mitigate the differences between Elzur in view of Lotito and that claim. For at least this reason, applicants respectfully assert that claim 3 is nonobvious over the cited references.

D. Claims 6-7, 24, 26-27 and 32

Claims 6-7, 24, 26-27 and 32 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Elzur in view of Lotito in further view of Muller.

1. Claim 6

Regarding claim 6, the Office Action states:

As per claim 6, Elzur, in view of Lot, does not explicitly disclose the network interface device of claim 1, further comprising a file cache adapted to store said data.

However, the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate

Muller's file cache in Elzur's device in order to store non-assembled packets.

As discussed above, Elzur in view of Lotito and Muller does not disclose the interface device of claim 1. As noted above, Muller at column 56, lines 20-30 and column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device.

In addition, claim 6 has been amended to recite "...wherein said file cache is adapted to store said data as a file stream, and the interface device is adapted to send said data as file blocks for storage on the storage unit." Support for this recitation can be found, for example, in the application at page 8, line 27 – page 9, line 3.

Applicants respectfully assert that Elzur in view of Lotito and Muller does not disclose this recitation.

2. Claim 7

Regarding claim 7, the Office Action states:

As per claim 7, Elzur, in view of Lot, does not explicitly disclose further discloses the network interface device of claim 1, further comprising a file cache adapted to store said data under control of a file system in the host.

However, the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Muller's file cache in Elzur's device in order to store non-assembled packets.

As discussed above, Elzur in view of Lotito and Muller does not disclose the interface device of claim 1. As noted above, Muller at column 56, lines 20-30 and column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device.

In addition, claim 7 has been amended to recite "...wherein said data is mapped from a logical file format of said file cache to a physical block format of the storage unit." Support for this recitation can be found, for example, in the application at page 9, lines 3-6.

Applicants respectfully assert that Elzur in view of Lotito and Muller does not disclose this recitation.

3. Claim 24

Regarding claim 24, the Office Action states:

As per claim 24, Elzur, in view of Lot, does not explicitly disclose the interface device of claim 21, further comprising a file cache adapted to store said data.

However, the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Muller's file cache in Elzur's device in order to store non-assembled packets.

As discussed above, Elzur in view of Lotito and Muller does not disclose the interface device of claim 21. As noted above, Muller at column 56, lines 20-30 and column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device.

In addition, claim 24 recites: "The interface device of claim 21, further comprising a Fibre Channel controller connectable to the storage unit." Applicants respectfully assert that Elzur in view of Lotito and Muller does not disclose this recitation.

4. Claim 26

Regarding claim 26, the Office Action states:

As per claim 26, Elzur, in view of Lot, does not explicitly disclose the interface device of claim 21, further comprising a file cache adapted to store said data.

However, the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Muller's file cache in Elzur's device in order to store non-assembled packets.

As discussed above, Elzur in view of Lotito and Muller does not disclose the interface device of claim 21. As noted above, Muller at column 56, lines 20-30 and column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device.

In addition, claim 26 has been amended to recite "...wherein said file cache is adapted to store said data as a file stream, and the interface device is adapted to send said data as file blocks for storage on the storage unit." Support for this recitation can be found, for example, in the application at page 8, line 27 – page 9, line 3.

Applicants respectfully assert that Elzur in view of Lotito and Muller does not disclose this recitation.

5. Claim 27

Regarding claim 27, the Office Action states:

As per claim 27, Elzur, in view of Lot, does not explicitly disclose further discloses the network interface device of claim 1, further comprising a file cache adapted to store said data under control of a file system in the computer.

However, the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Muller's file cache in Elzur's device in order to store non-assembled packets.

As discussed above, Elzur in view of Lotito and Muller does not disclose the interface device of claim 21. As noted above, Muller at column 56, lines 20-30 and column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device.

In addition, claim 27 has been amended to recite "...wherein said data is mapped from a logical file format of said file cache to a physical block format of the storage unit." Support for this recitation can be found, for example, in the application at page 9, lines 3-6.

Applicants respectfully assert that Elzur in view of Lotito and Muller does not disclose this recitation.

5. Claim 32

Regarding claim 32, the Office Action states:

As per claim 32, Elzur, in view of Lot, does not explicitly disclose the method of claim 28, further comprising storing the data on a file cache of the interface device.

However, the use and advantages for using such cache is well-known to one of ordinary skill in the art as evidenced by Muller (column 56, lines 20-30, column 58, lines 26-30).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Muller's file cache in Elzur's device in order to store non-assembled packets.

As discussed above, Elzur in view of Lotito and Muller does not disclose the method of claim 28. As noted above, Muller at column 56, lines 20-30 and column 58, lines 26-30 at most discloses TCP re-assembly in a host buffer rather than a file cache on an interface device.

In addition, claim 26 has been amended to recite "...wherein sending the data from the file cache includes sending the data as file blocks for storage on the storage unit." Support for this recitation can be found, for example, in the application at page 8, line 27 – page 9, line 3.

Applicants respectfully assert that Elzur in view of Lotito and Muller does not disclose this recitation.

II. Response to Applicants' Arguments

On page 13 of the Office Action, a "Response to Arguments" section is included which states, in its entirety:

Applicant's arguments have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Applicants respectfully note that Elzur, the primary reference cited in the latest Office Action, is the same as that cited previously, to which applicants' arguments were directed. Because the Examiner could not be unaware of the fact that the primary reference that she cites is the same as the primary reference she cited last time, those arguments are uncontroverted.

III. Conclusion

Applicants have amended the claims and discussed why all of the claims are nonobvious over the cited references. For the reasons discussed above, applicants respectfully submit that the claims are allowable, and a notice of allowance is solicited.

Respectfully submitted,

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